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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,972	07/31/2003	Jukka A. Vainio	60091.00219	1842

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EXAMINER

SWEARINGEN, JEFFREY R

ART UNIT	PAPER NUMBER
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2145

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/630,972	Applicant(s) VAINIO ET AL.	
	Examiner Jeffrey R. Swearingen	Art Unit 2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2007.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8-18 and 24-27 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-5, 8-18 and 24-27 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20070822</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This case has been assigned to a new Examiner.

Response to Arguments

2. Applicant's arguments with respect to claims 1-5, 8-18, and 24-27 have been considered but are moot in view of the new ground(s) of rejection.
3. The examiner held a telephonic interview with Applicant's representative on October 15, 2007 to discuss possible amendments to the claims. The new grounds of rejection were located following the phone call.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 8, 10-11, 13, 14, 24-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a computer cluster or a computer node. Both of these could be interpreted as software per se, based upon the wording of the claims, the lack of information in the specification, and reading the claims in their broadest interpretation. See Annex IV, Interim Guidelines for Determination of Subject Matter Eligibility, and *In re Nuijten*. During the telephonic interview of October 15, 2007, Applicant's representative agreed to a potential amendment of a computer node embedded upon a computer readable medium or each computer node embedded upon a computer readable medium to overcome the rejection for lack of statutory subject matter.
6. The above claims are also rejected under 35 U.S.C. 101 because no tangible result is produced by the claims. There are numerous references to a module being "configured to" perform a function, but no function is actually performed. Applicant's representative agreed to remove the phrase "configured to" to overcome the rejection for lack of a tangible result.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 1, 2, 4, 5, 8, 14, 15, 18, 24, 25, 26, 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 1, 2, 4, 5, 8, 14, 15, 18, 24, 25, 26, 27 recite the limitation "heartbeat acknowledgment" in the claims. There is insufficient antecedent basis for this limitation in the claim. Applicant should correct to "heartbeat acknowledgement".

10. Claim 14 is unclear what it means to one of ordinary skill in its current form. Applicant is recommended to correct "...wherein the heartbeat acknowledgement message to..." to "...wherein the heartbeat acknowledgement message is..." as discussed per the telephone call of October 15, 2007.

11. Applicant should review all submitted claims for additional typographical errors.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-5, 8-18, and 24-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Redding et al. (US 7,035,918 B1).

14. In regard to claim 1, Redding disclosed:

receiving, in at least one second computer node of a computer cluster, periodic heartbeat messages from a first computer node of the computer cluster, each of the at least one second computer node including at least one resource for performing at least one cluster-specific task;
transmitting heartbeat acknowledgement messages from the at least one second computer node to the first computer node as responses to the heartbeat messages to indicate to

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the first computer node that the at least one second computer node is operative within the computer cluster;

receiving, in at least one of the second computer nodes, state information for any one or more of the heartbeat acknowledgement messages, wherein the state information is indicative of an ability of the at least one resource to perform the at least one cluster-specific task; and

sending the state information in one or more of the heartbeat acknowledgement messages to the first computer node for storing the state information in the first computer node.

Column 11, lines 35-49.

15. In regard to claim 2, Redding disclosed:

examining, in response to the receiving, whether state information is to be retrieved for a heartbeat acknowledgement message, wherein the heartbeat acknowledgement message is any of the heartbeat acknowledgement messages.

Column 11, lines 35-49.

16. In regard to claim 3, Redding disclosed:

examining whether a predetermined condition is fulfilled.

Column 11, lines 35-49

17. In regard to claim 4, Redding disclosed:

the retrieving and sending the state information are performed when the examining indicates that the predetermined condition is fulfilled, and

the transmitting comprises transmitting a heartbeat acknowledgement message without state information when the examining indicates that the predetermined condition fails to be fulfilled, wherein the heartbeat acknowledgement message is any of the heartbeat acknowledgement messages.

Column 11, lines 35-49.

18. In regard to claim 5, Redding disclosed:

determining a type of state information to be retrieved for the heartbeat acknowledgement message.

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Column 11, lines 35-49

19. Claim 8 is substantially the same as claim 1.

20. In regard to claim 9, Redding disclosed:

a Management Information Base operably connected to the first computer node for storing the state information sent to the first computer node.

Column 11, lines 35-49. See distribution table and available records.

21. In regard to claim 10, Redding disclosed:

an access unit configured to access the Management Information Base from the computer cluster.

Column 11, lines 35-49. See distribution table and available records.

22. In regard to claim 11, Redding disclosed:

an access unit configured to access the Management Information Base from outside of the computer cluster.

Column 11, lines 35-49. See distribution table and available records

23. In regard to claim 12, Redding disclosed:

a network interface in the first computer node.

Column 10, lines 30-54

24. Claim 13 is substantially the same as claim 1.

25. Claim 14 is substantially the same as claim 2.

26. Claim 15 is substantially the same as claim 1.

27. Claim 16 is substantially the same as claim 9.

28. Claim 17 is substantially the same as claim 11.

29. In regard to claim 18, Redding disclosed:

receiving the heartbeat acknowledgement message further comprises removing the second computer node from the cluster when no heartbeat acknowledgement message is received within a predetermined period of time.

Column 11, lines 1-18.

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- 30. Claim 24 is substantially the same as claim 1.
- 31. Claim 25 is substantially the same as claim 1.
- 32. Claim 26 is substantially the same as claim 1.
- 33. Claim 27 is substantially the same as claim 1.

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ertel et al.	US 5,649,100
Waldo et al.	US 6,016,500
Gershman et al.	US 6,199,099 B1
Ehlinger et al.	US 6,311,217 B1
Hebert	US 6,728,780 B1
Wang et al.	US 6,961,763 B1

35. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Cardone
Supervisory Patent Examiner
Art Unit 2145

JRS